

CLAIMS

Now, therefore, the following is claimed:

1. A graphical display system, comprising:

memory for storing a parametric texture map (PTM) and a non-parametric texture map (non-PTM); and

a texture mapper configured to selectively render, based on one or more criteria, a PTM version or a non-PTM version of the graphical object, wherein the PTM version is based on the parametric texture map and the non-PTM version is based on the non-parametric texture map.
2. The system of claim 1, wherein the criteria comprises a distance between a user's viewpoint and the graphical object.
3. The system of claim 1, wherein the criteria comprises a viewing angle for the graphical object.
4. The system of claim 1, wherein the criteria comprises an amount of visible surface area for the graphical object.
5. The system of claim 1, wherein the criteria comprises a level of detail value.

6. The system of claim 5, further comprising a graphics application configured to generate, based on said level of detail value, primitives defining said graphical object and to transmit said primitives to said texture mapper.

7. The system of claim 1, wherein the texture mapper is configured to perform a comparison between a threshold and a value indicative of a user's viewpoint.

8. The system of claim 7, wherein the texture mapper is configured to select one of the versions for rendering based on the comparison.

9. The system of claim 7, wherein the value is weighted based on at least two of a group consisting of: a distance between the user's viewpoint and the graphical object, a viewing angle of the graphical object, and an amount of visible surface area of the graphical object.

10. A graphical display system, comprising:
memory for storing a parametric texture map (PTM) and a non-parametric texture map (non-PTM); and
a texture mapper configured to selectively apply, based on a one or more criteria, the PTM or the non-PTM to a pixel of the graphical object.

11. The system of claim 10, wherein the texture mapper is configured to select one of the texture maps and to apply the selected texture map to the pixel based on a comparison of a threshold and a value indicative of a user's viewpoint.

12. The system of claim 11, wherein the value is indicative of a distance between the user's viewpoint and the graphical object.

13. The system of claim 11, wherein the value is indicative of a viewing angle for the graphical object.

14. The system of claim 11, wherein the value is indicative of an amount of visible surface area for the graphical object.

15. The system of claim 11, wherein the value is weighted based on at least two of a group consisting of: a distance between a user's viewpoint and the graphical object, a viewing angle of the graphical object, and an amount of visible surface area of the graphical object.

16. The system of claim 11, further comprising a graphics application configured to generate, based on said value, primitives defining said graphical object and to transmit said primitives to said texture mapper.

17. The system of claim 11, wherein the non-PTM is derived from the PTM.

18. A computer readable-medium having a program, the program comprising:

- logic for determining a value indicative of a user's viewpoint;
- logic for comparing the value to a threshold; and
- logic for selecting, based on the comparing logic, between a parametric texture map and a non-parametric texture map and applying the selected texture map to a pixel of the graphical object.

19. A graphical display system, comprising:

- means for determining a value indicative of a user's viewpoint;
- means for comparing the value to a threshold; and
- means for selectively applying, based on the comparing means, a parametric texture map and a non-parametric texture map to a pixel of the graphical object.

20. A graphical display method, comprising:

- displaying a graphical object; and
- selectively applying, based on one or more criteria, a parametric texture map (PTM) or a non-parametric texture map (non-PTM) to a pixel of the graphical object.

21. The method of claim 20, further comprising deriving the non-PTM from the PTM.

22. The method of claim 20, wherein the criteria comprises a value indicative of a user's viewpoint, the method further comprising performing a comparison between the value and a threshold.

23. The method of claim 22, wherein the selectively applying is based on the comparison.

24. The method of claim 22, further comprising weighting the value based on at least two of a group consisting of: a distance between the user's viewpoint and the graphical object, a viewing angle of the graphical object, and an amount of visible surface area of the graphical object.

25. The method of claim 22, further comprising:
generating primitives defining the graphical object; and
determining, based on the value, a number of primitives to be generated via the generating.

26. A graphical display method, comprising:
displaying a graphical object;
selecting between a parametric texture map (PTM) and a non-parametric texture map (non-PTM) based on a value indicative of a user's viewpoint; and
applying the selected texture map to at least a portion of a surface of the graphical object.

27. The method of claim 26, further comprising deriving the non-PTM from the PTM.

28. The method of claim 26, further comprising comparing the value to a threshold, wherein the applying is based on the comparing.

29. The method of claim 28, wherein the value is indicative of a distance of the user's viewpoint and the graphical object.

30. The method of claim 28, wherein the value is indicative of a viewing angle for the graphical object.

31. The method of claim 28, wherein the value is indicative of an amount of visible surface area for the graphical object.

32. The method of claim 28, further comprising:
generating primitives defining the graphical object; and
determining, based on the value, a number of primitives to be generated via the generating.